

Transferring an Outcome-Oriented Learning Architecture to an IT Learning Game

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Background: the SpITKom project



- Goal: Teach IT-Knowledge to learners difficult to reach
- Target group: participants of third chance education programm in the building sector
- Target group not acquainted with computer use but experienced in gaming
- Targeted Level: European Computer Driver License (ECDL)
- Target group is not motivated for learning!

GEFÖRDERT VOM



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HOW TO REACH THE TARGET GROUP?

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Game-based Learning in SpITKom

- Idea: develop an IT learning game that uses an outcome-oriented learning approach
- Increase motivation and engagement by offering attractive, appealing game-learning environment
- Approach
 - “Hide” learning activities in the game process
 - Use ECDL Syllabus as base for the definition of learning outcomes
 - Personalise learning process according to progress and success



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IT-Learning in the SpITKom-Game

Punkte 22984

25600

Das hier ist das "Info-Fenster". Hier steht immer, was du als nächstes tun kannst. Manchmal hast du auch mehrere Möglichkeiten. Diese werden dir dann auch hier angeboten.

IT-Cafe Verwaltung Minispiele Hilfe

22 984 Level 7 Stufe 06/10 IT-Checker 43% Teamgeist 64%

Freunde BZB Team Alle Chat Nachrichten (3)

19 256 256 10 984 10 025 2 984

Andi1983 Peter Karl Ines Hannes24

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IT-Learning in the SpITKom-Game

The screenshot displays the SpITKom game interface. At the top, the player's score is 22984 points and 25600 coins. The main menu on the left includes 'IT-Cafe' and 'Verwaltung'. A large blue arrow points from the 'Verwaltung' icon to a quiz window. The quiz window has a title bar with a character icon, a text box containing the question 'Der neue Kollege von mir ist voll der Besserwisser. Ich glaub nicht, dass immer alles stimmt, was der so erzählt. Weißt du es?', and a 'Schließen' button. The quiz content asks 'Welche Aussagen sind tatsächlich richtig?' and lists three statements with checkboxes. The first two statements are in red boxes and are incorrect, while the third is in a green box and is correct. To the right of the statements are images of a computer mouse and a keyboard. The bottom of the interface shows a player profile for 'MyName' at Level 7, a progress bar for 'IT-Checker' at 43%, and a 'Teamgeist' at 64%. A row of player avatars is visible at the bottom, including Andi1983, Peter, Karl, Ines, and Hannes24. The bottom right corner features the 'stec.org' logo and a red 'U' logo.

Punkte 22984

25600

IT-Cafe Verwaltung

Das hier ist...
wenn du al...
n...
we...

Der neue Kollege von mir ist voll der Besserwisser. Ich glaub nicht, dass immer alles stimmt, was der so erzählt. Weißt du es?

Schließen

Welche Aussagen sind tatsächlich richtig?

- ☐ Ein Touchpad kann sowohl zur Ausgabe als auch zur Eingabe von Daten verwendet werden.
- ☐ Mit einer deutschen Tastatur kann lediglich deutscher Text eingegeben werden.
- ☒ Ein Trackball ist ein Eingabegerät, das aus einem Gehäuse und einer Kugel besteht.

IT-Cafe Hilfe Bestätigen

22 984 Level 7
Stufe 06/10
IT-Checker 43%
Teamgeist 64%

MyName

Andi1983 Peter Karl Ines Hannes24

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IT-Learning in the SpITKom-Game

Punkte 22984

Das hier ist das "Info-Fenster". Hier steht immer,

25600


IT-Cafe


Verwaltung



**IT-Cafe**
Übersicht

Willkommen im IT-Cafe. Hier hast Du Zugriff auf alle IT-Inhalte. Du kannst Fragen zu den Inhalten beantworten und Dein Wissen mit einem Test überprüfen.



22 984


MyName

Level 7

Stufe 06/10

IT-Checker 43%

Teamgeist 64%


Andi1983


Peter


Karl


Ines


Hannes24

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HOW TO TACKLE THE LEARNING PROCESSES?

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Outcome-oriented Learning

- Goal: prepare students for requirements of professional life
- Assumption: Learners are **individual** and **different**
- Process
 - Define Outcomes to achieve rather than resources to use
 - Aim for fine grained definition of these outcomes instead of large curricula
 - Select resources fitting the purposes of an outcome and the situation of a learner
- Benefit: outcome-oriented learning processes can be personalised, continuously monitored, and adapted
- Challenge:
 - Individualised learning processes and tools require interoperability issues to be solved



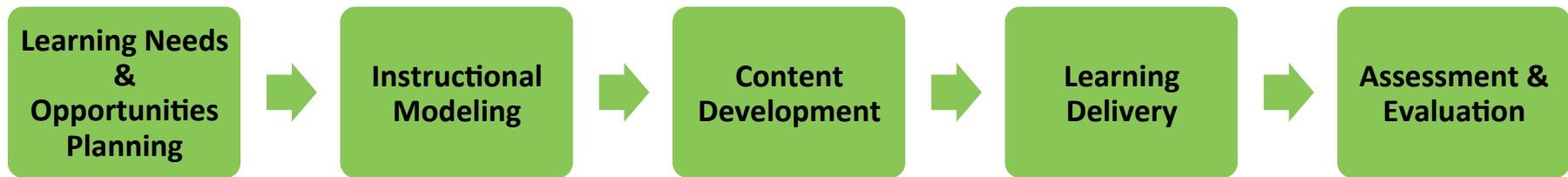
Learning Outcomes & Content in SpITKom

- Basis: European Computer Driver License (ECDL)
 - See: ecdل.org
- ECDL Syllabus defines Learning Outcomes
 - Syllabus organised in 7 Modules, defines fine grained individual skills to achieve: e.g. *“Understand that a cell in a worksheet should contain only one element of data, (for example, first name detail in one cell, surname detail in adjacent cell).”*
 - Basis for definition of IT-Skills in SpITKom
- Learning Content
 - Learning modules,
 - Simulations
- Assessment
 - Assessment questions integrated in gameplay



Outcome-orientation in ICOPER

**ICOPER collects and further develops
best practices for interoperable content
supporting competency-driven higher education**



**Activities at Higher Education Institutions
that the ICOPER project investigates**

ICOPER

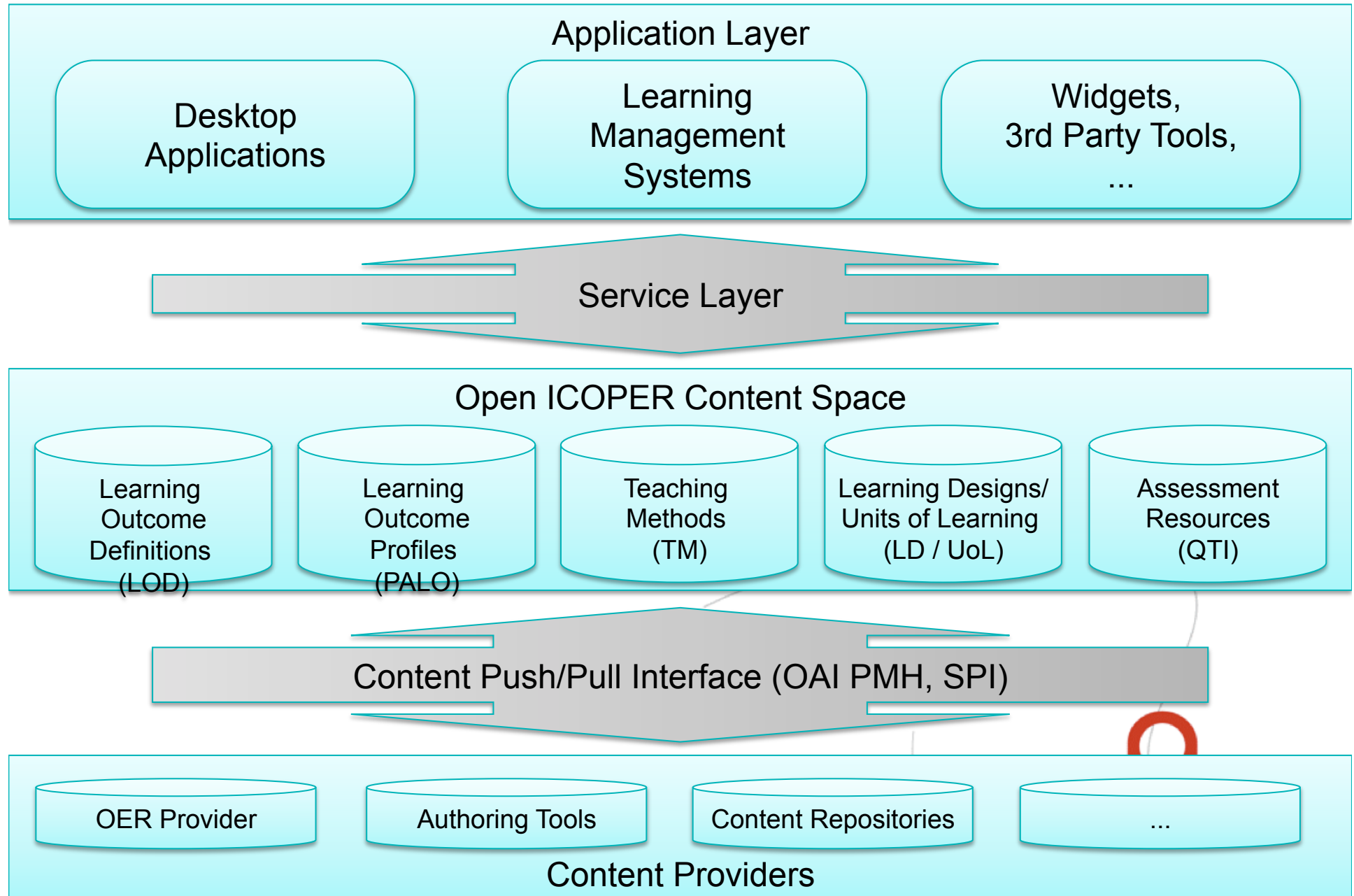


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eContent*plus* programme

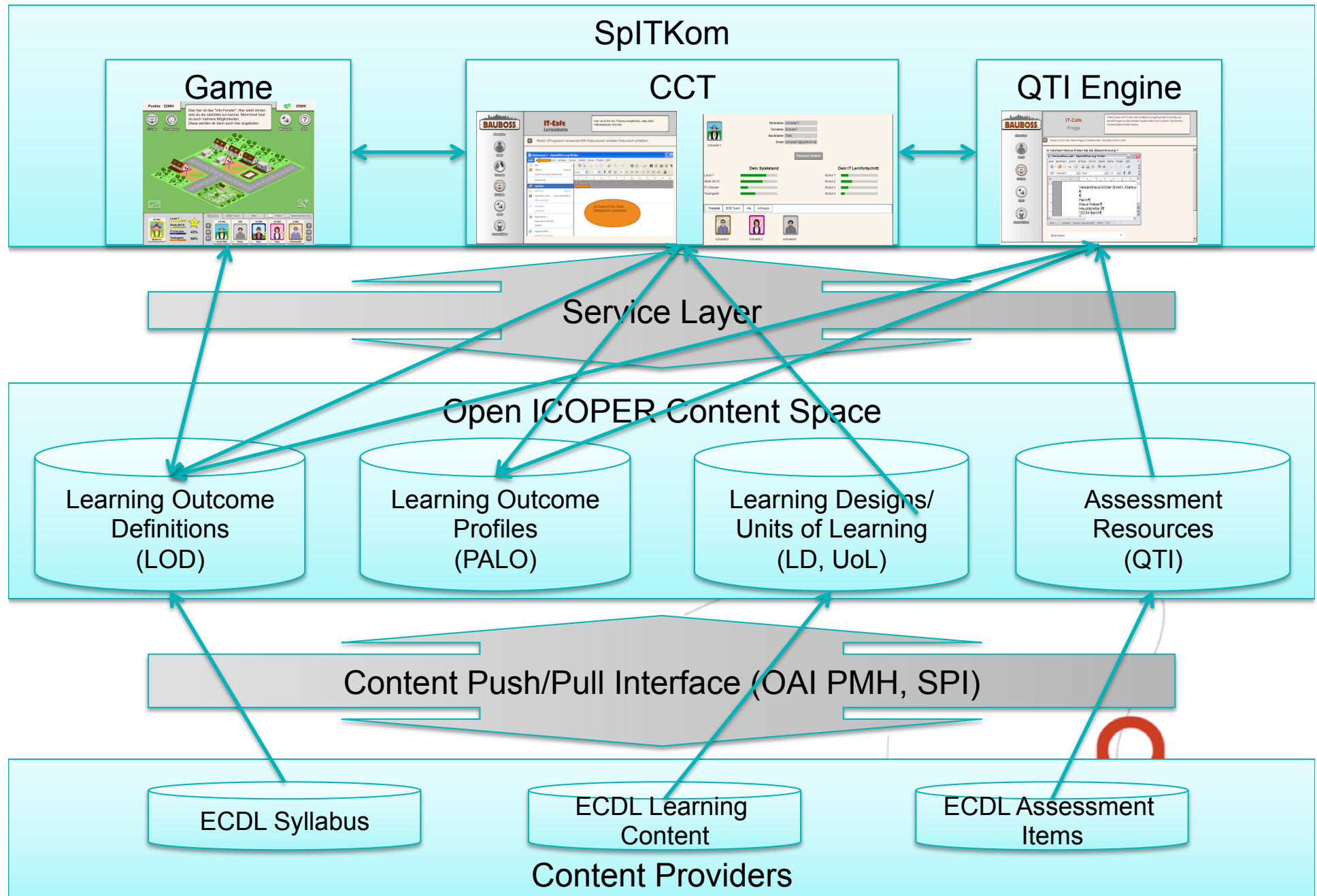
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Open ICOPER Content Space (OICS)



OICS Transfer



Conclusion

- Successful transfer of a higher education focussed service-based architecture to a learning game for third chance education
- Ongoing:
 - Full evaluation planned for early 2012
 - Motivating first feedback from the target group
- However: target group is better equipped with mobile devices than with PCs/Laptops
 - A mobile version is planned



Thank you!

Questions?

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